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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/753,876

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11/10/2005

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EXAMINER

FIDLER, SHELBY LEE

ART UNIT

PAPER NUMBER

2861

DATE MAILED: 11/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/753,876

Applicant(s)

KOBAYASHI ET AL.

Examiner

Shelby Fidler

Art Unit

2861

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on 6/2/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: "Method and Apparatus for Controlling Print Data."

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Asauchi et al. (US 6431676 B2).

With regards to claims 1 and 6, Asauchi teaches an inkjet device (col. 1, line 12) comprising:

an inkjet head having multiple nozzles arranged at equally spaced intervals in a row, the inkjet head ejecting ink droplets from the multiple nozzles (col. 6, lines 37-39) onto target pixels (col. 2, lines 56-58) on a medium (col. 2, line 62);

a data generating unit (control circuit 40, Figure 2) that generates both ejection data (col. 5, lines 66-67) and timing control data (col. 6, line 16) from pattern data (col. 5, line 63);

a drive-waveform-generation-signal generating unit (controller 45, col. 7, lines 5-6) that generates a drive-waveform generation signal (enable signal EN, col. 7, lines 8-9) in accordance with the timing control data (col. 7, lines 9-10);

a transfer-signal generating unit (inherently taught with the existence of a transfer-signal) that generates a transfer signal (print signal SI) in accordance with the timing control data (col. 6, lines 25-27);

a drive-waveform generating unit that generates a drive waveform in accordance with the drive-waveform generation signal (driving waveform generating circuit 46, Figure 2);

an ejection-data transferring unit (switching circuit 54, col. 8, lines 17-18) that transfers the ejection data in accordance with the transfer signal (col. 6, lines 40-42);

a control unit that controls, based on the drive waveform and the ejection data transferred from the ejection-data transferring unit, the inkjet head to selectively eject ink droplets from the multiple nozzles (control circuit 40, Figure 2).

With regards to claims 2 and 7, Asauchi further teaches a conveying unit that conveys the medium in a first direction relative to the inkjet head (read col. 5, lines 60-61 in combination with Figure1B), wherein:

a plurality of lines are defined on the medium, each of the plurality of lines extending in a second direction that is orthogonal to the first direction (Figure 1B);

the plurality of lines has an interval in the first direction that is smaller than a minimum ejection frequency of each of the multiple nozzles (Figure 1B shows that dots are

formed at a closer interval in the sub-scanning direction than in the main-scanning direction); and

the timing control data are defined for each of the plurality of lines (col. 2, lines 59-64), and include drive-waveform generation timing data, which determine whether to generate the drive waveform for the each of the plurality of lines (enable signal EN, col. 7, lines 5-9), and ejection-data transfer timing data (print signal SI), which determine whether to transfer the ejection data for each of the plurality of lines (col. 6, lines 25-26).

With regards to claims 3 and 8, Asauchi further teaches the drive-waveform generating unit generates the drive waveform only at lines which include at least one of the target pixels (col. 3, lines 5-8 explains that selective printing occurs by varying the time interval between selecting waveforms); and

the ejection-data transferring unit transfers the ejection data only at lines which include at least one of the target pixels (col. 3, lines 5-8) and at which the ink droplets are ejected based on ejection data different from previously transferred ejection data (col. 11, lines 26-30).

With regards to claims 4 and 9, Asauchi further teaches a data-rotation-instructing-signal generating unit (inherent with the existence of a data-rotation instructing signal) that generates a data-rotation instructing signal (select signal, col. 3, lines 55-57) in accordance with the timing control data (Figure 13, CS in accordance with CLK1), wherein the control unit includes an ejection shift register that stores ejection data (working memory area, col. 3, line), and a data rotating unit that rotates the ejection data between the ejection shift

register in accordance with the data-rotation instructing signal (col. 3, lines 32-40, data is rotated between a memory area to a working memory area).

With regards to claim 5, Asauchi further teaches that the control unit controls the inkjet head based on the ejection data stored in the ejection shift register (Figure 11).

Conclusion

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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